Lyondell
One Houston Center
Suite 700
1221 McKinney Street
Houston, Texas 77010
Phone: 713.309.7192
Fax: 713.951.1574
marcy.banton@lyondell.com

May 5, 2006

Dr. Scott A. Masten
Director, Office of Chemical Nomination and Selection
NIEHS/NTP
111 T.W. Alexander Drive
P.O. Box 12233
Research Triangle Park, NC 27709

Re: Federal Register Vol. 71 (No. 69), April 11, 2006, pp 18341 – 18345.

Dear Dr. Masten:

Lyondell Chemical Company appreciates the opportunity to submit these comments on the referenced Federal Register Notice nomination of gypsum to the National Toxicology Program. Millennium Inorganic Chemicals, Incorporated, a wholly owned subsidiary of Lyondell Chemical Company, is an international producer of gypsum.

Lyondell Chemical Company recommends against testing gypsum because of the reasons stated below.

Gypsum has been used for many years worldwide in numerous applications and under normal conditions of use does not pose a health concern for the people who manufacture it, work with it, or use it. Conditions of excess inhalation exposure to gypsum, like other substances, would be a cause for health concern and should be avoided and not tested.

Recommended testing for gypsum includes short-term pulmonary toxicity studies with comparative studies involving intratracheal versus inhalation routes of administration. Although exposures to high airborne levels of gypsum may lead to respiratory irritation, exposures in the workplace are not associated with significant adverse effects. The majority of studies of gypsum workers have reported no lung disease. Reports of adverse effects in humans from chronic exposure to gypsum or gypsum-containing products are confounded by concomitant exposures to other minerals including silica.

Gypsum is generally recognized to be of low toxicity to experimental animals. It has some limited water solubility and is soluble within body fluids. As such, gypsum is rapidly cleared form rat lungs by either dissolution or normal particle clearance mechanisms. Inflammation of the lung resolves upon removal from exposure.

Given the recognized low toxicity of gypsum combined with a rapid removal rate compared to other fibrous materials, elevated exposure levels in short-term inhalation studies will be required to elicit a biological response. It is anticipated that such high exposures will produce non-specific pulmonary responses seen generally for other low

toxicity particulates, often referred to as nuisance dusts. Briefly, it is anticipated that exposure levels which overwhelm alveolar clearance mechanisms will result in pulmonary inflammation, metaplasia, and fibrosis. Such responses, seen at exposure levels far in excess of realistic ambient concentrations, will provide little or no useful human hazard information and, additionally, would not be a good use of animal resources.

In light of the significant limitations of the recommended testing for gypsum, Lyondell Chemical Company does not support the proposed testing of gypsum by the National Toxicology Program. If the National Toxicology Program proceeds with acute exposure studies, it is the recommendation of Lyondell Chemical Company that these be conducted at reasonable levels representative of those found in the workplace.

Sincerely,

Marcy Banton

Marcy I. Banton, DVM, PhD, DABVT
Manager, Toxicology and Risk Assessment